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## ORIGINAL ARTICLES.

### A NEW KNIFE FOR DIVIDING MEMBRANES OBSTRUCTING THE PUPIL AFTER CATARACT OPERATIONS.\*

By M. H. Post, M.D.,  
ST. LOUIS, MO.

It is a not infrequent experience in attempting to divide a rather tough membrane obstructing the pupil to find that we have succeeded in making only a hole instead of the desired free incision. I have found that a modified form of knife needle has yielded, in my own hands and in the hands of several colleagues, decidedly better results than I have obtained with such needles as I have hitherto tried.



- \* The blade, 6 m.m. long and  $1\frac{1}{4}$  m.m. wide at its widest part, about 3 m.m. from the point, has its back straight and dull, and a sharply rounded cutting edge extending its entire length. The shank is cylindrical, and of a diameter sufficient to prevent the escape of aqueous during the operation. The width of the blade

\*Communicated to the St. Louis Ophthalmological Society January 13th, 1908.

is sufficient to admit of its cutting edge being ground very sharp, which is important.

In operating the point is entered near the periphery of the cornea, with the flat of the blade parallel to the plane of the iris, and is carried well across the pupil to the place where it is proposed to pass it through the membrane. Carrying it still further the blade cuts its way to an extent equal to its own width. Having passed it still further it is pressed in the direction of the cutting edge, so that in withdrawing it the sharp heel of the blade shall divide the membrane as far as may be.

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#### THE USE OF CHEAP HAMMERS AS A FACTOR IN PENETRATING WOUNDS OF THE EYE.\*

(With Illustrative Cases.)

By S. C. AYRES, M.D.,  
CINCINNATI.

A penetrating bit of metal is not so dangerous an injury to the eye now as it was a few years ago, before magnets had been brought to their present state of perfection. Especially is this true since the discovery of the X-ray. With its aid we are able to locate pieces of metal with a great degree of accuracy. With the combined use of the X-ray and the eye magnet, a very large proportion of eyes so injured are saved, which formerly would surely have been doomed. These accidents have lost much of their terror to the surgeon now, since he has such efficient measures at hand to treat them with. Cases of sympathetic inflammation are bound to be much less frequent, as it was just these injuries which furnished a large percentage of them. An eye with a piece of metal in it was always a menace to the fellow eye; hence, the practice of nucleating such eyes was justifiable. Now the eye, although blind, is saved to fill the orbit, which is far more comfortable than an artificial eye.

It is not my intention to describe the various magnets which have been devised by ingenious men, but rather to look to the cause of these accidents and see whether we cannot do something to prevent them, just as we try to educate the public in the ques-

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\*Read before the Academy of Medicine of Cincinnati, March 23, 1907.

tion of typhoid fever, by showing them the danger of infected water or milk. Why should we not show the mechanics the danger from the cheap hammers they use and urge them to purchase better tools? My attention has been called to this very practical point by the study of the character and condition of the tools used by the mechanics who are so unfortunate as to receive these injuries. In answer to my question as to how the injuries were received, they generally said that they were striking a chisel or a piece of metal or a hatchet with a hammer. Frequently the one striking is not injured, as the fragments of steel fly away from him, but the helper or the one standing near is the victim.

The uniformity of answers prompted me to ask for a hammer, so that I could see how and why these pieces of steel could separate themselves so rapidly from the hammers. The information which I gained about these tools convinced me that such accidents may be to a considerable degree prevented. For this valuable information I am indebted to Mr. Chas. Atkins, of the Bullock Electric Company, who was so unfortunate as to be one of the patients referred to in the report. I give you his letter in full, as it explains the two methods of manufacturing the hammers generally used by workmen.

CINCINNATI, December 27, 1907.

Dr. S. C. Ayres,

Dear Sir:—In reference to our conversation of a recent date, I am sending you to-day a hammer. It is one of the kind usually bought by mechanics, and costs about thirty-five cents. There are two kinds of cheap hammers, one of which is made from a low carbon tool steel. It is heated and placed under a steam hammer and pressed to shape by a die. It is then heated and the face of the hammer immersed in water. This process is known as tempering, and the hard shell penetrates the metal from one-sixteenth part of an inch or deeper. The higher the carbon in the steel the deeper the temper penetrates. This one is made from cast-steel and case-hardened as follows: The faces or parts of the hammer are heated to a good red heat; cyanide of potassium is then applied to the surface desired to be case-hardened. This penetrates to a depth of about one sixty-fourth of an inch. It is then immersed in cold water and produces a hard surface practically the same as tempering, but not so deep. You will please notice the appearance of the metal below this hard shell; it looks

soft and porous. It is my belief that repeated blows on the face of this hammer drive away this softer metal from the outside shell, thus leaving a space, and allowing the shell to crack and chip off from the edge of the hammer-face as per sample. If our mechanics could be induced to buy a better grade of hammer, I feel satisfied there would be fewer accidents from this cause.

Hoping this proves satisfactory, I remain,  
Yours truly,

CHAS. ATKINS.

I am told that an all-steel hammer costs about \$1.25. The workmen nearly always buy the cheaper goods because they are cheap. If the purchase of a more expensive tool would save the laborers from the danger of losing their eyes, it seems like bad economy to buy the cheaper grade.

Let me give you a condensed report of these cases:

CASE I.—A. K. June 27, 1906, while striking a cutter blade with a hammer to take it from a bar, a chip of metal flew off and penetrated the cornea and lodged in the iris. It penetrated the lower central portion of the cornea and passed across and lodged on the outer side of the iris. It appeared bright and shining. An opening in the cornea was made with a spear knife near the foreign body, the point of the magnet introduced and the bit of metal easily drawn out. No reaction followed, no impairment of vision after a few days. In this case Mr. K. thinks the metal came off the cutter blade.

CASE II.—P. G. October 10, 1906, while chipping and striking a chisel with a hammer, a small fragment of steel struck the eye at the inner edge of the cornea, passed directly upward through the suspensory ligament of the lens into the vitreous. There was considerable blood in the anterior chamber as well as in the vitreous, and vision was reduced to seeing motions of the hand. The magnet was introduced into the wound of entrance and the metal removed at the first attempt. The eye remained irritable for some time. The blood was slowly absorbed. Atropine and dionin were used for a while, until the eye became quiet. After the injury there was a cloudiness of the posterior cortex of the lens. This gradually cleared up under the influence of the treatment above mentioned.

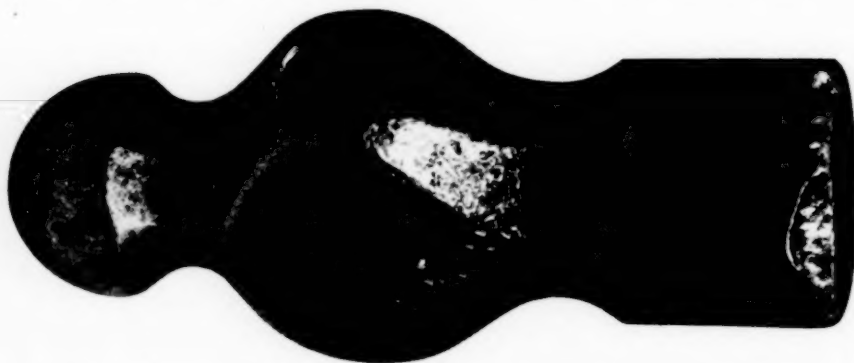
CASE III.—G. W. L. January, 1907. Referred to me by Dr. Herschel Fischer, of Lebanon, Ohio. The patient was striking

an iron barrel-hoop with a chisel and hammer; a bit of metal passed through the left cornea at its lower margin, went through the iris, leaving a vertical opening about half the width of the iris, through which a red reflex could be seen. The hole in the iris was a little more on the temporal side than the wound in the cornea, and it was natural to think the metal had passed into the temporal side of the globe. The metal passed through the suspensory ligament of the lens, but caused enough disturbance to result in a cloudy condition of the cortex, so that the fundus could not be seen. The eye was not painful and the pupil dilated well under atropine. In order to be sure of the diagnosis and to locate the metal if possible, the X-ray was applied by Dr. Ricker; it showed a foreign substance there, but the location was not satisfactory. A second skiagraph was made, which showed its position better. The bit of metal appeared very small in the negative. I advised the patient to wait a few days, hoping the lens would clear up: On the 14th of February I made an attempt to remove the metal by making an incision in the sclera on the temporal side, as it seemed probable it had gone in that direction. Although the magnet was carefully introduced three times, it failed to reach the foreign body. After a few days in the hospital the eye was examined; no reaction followed the incision of the sclera and the lens had cleared up some. I was then able to see a foreign body, rather indistinctly, through a white cloud, but it was on the nasal side of the median line and not on the temporal side, where we had a right to expect it. It was evidently sticking in the sclera. On the 25th of February another opening was made in the sclera, but this time on the nasal side. The point of the magnet was introduced the third time before it drew the metal out.

The difficulty in this case was undoubtedly due to the fact that the sharp point of the steel had penetrated the sclera. If it had been free in the vitreous, we would possibly have succeeded in removing it at the first operation. This is only one of the possible complications of such accidents. The final result of this was very satisfactory. V.—15/20.

CASE IV.—C. A. May 25, 1907. Penetrating foreign body of the left eye. It passed through the lower margin of the cornea, through the iris and probably through the suspensory ligament of the lens, lodging in or near the ciliary body. The wound was received about twenty hours ago. The iris was slightly dull

in color, there was cloudiness of the aqueous and a trace of hypopyon. He had some pain last night. The injury was received in the following manner: Mr. A. was standing about three feet from a workman who was striking a lathe tool with an old case-hardened hammer. A splinter from the hammer broke off and penetrated the eye. In the operation the wound of entrance had to be enlarged. The magnet drew the metal through the hole in the iris to the corneal wound, from which it readily escaped; atropine was instilled and cold compresses were applied continuously for about two days, and liberal doses of salicylate of sodium were given internally. Conditions improved at once.



Cheap hammer, such as is generally used by mechanics. The places where the case-hardened crust is broken off are plainly visible, also the dents in the softer metal where fragments have been knocked off.

The hypopyon disappeared and the iritis subsided. The posterior cortex of the lens showed a star-shaped opacity. This gradually cleared up. A month after the injury vision had increased from 15/100 to 15/40, in another month it had vision to 15/30. In November, six months after the injury, vision was perfect and the traumatic opacity of the lens had disappeared entirely.

CASE V.—R. E. P. September 23, 1907. Was injured at 10 A.M. He was opening a large box or crate and struck the pole of a hatchet with an old hammer; a piece of the edge of a hammer flew off and penetrated the left eye. It entered the eye through the upper and inner quadrant of the limbus, passed through the upper edge of the iris, but did not wound the lens. It lodged in the vitreous. There was hæmorrhage in the anterior chamber as well as in the vitreous. Vision reduced to perception of light. The operation was done five hours later. The wound of entrance

was enlarged. The piece of metal, being very large, was removed with difficulty; no reaction followed. The pupil was drawn upward and inward, resembling a very narrow iridectomy. In October, V=shadows; in November, V= fingers at seven feet; December, =fingers at eight feet. It is probable it will improve a little more. In this case both the hatchet and hammer were used, but the patient is quite sure the metal came off the hammer. The latter was so rough that it was ground down smooth again and is still in use.

CASE VI.—C. L. A. September 10, 1907. Penetrating wound of the right eye six weeks ago. He was striking the head of a drill with a hammer. A small piece of metal flew off and passed through the upper lid in the nasal side, and through the sclera in front of its equator and entered the vitreous. There was some conjunctival hæmorrhage on the inner side of the globe. No pain followed the injury, but latterly he has had flashes of light. With the ophthalmoscope a foreign body can be indistinctly seen near the equator of the globe. There was some optic neuritis, V=15/200. With—1.0 sph. V=15/30. The X-ray showed a small foreign body deep in the eye. As it had been in the eye for six weeks, it was impossible to use the wound of entrance for its extraction. Consequently, an opening was made in the sclera in its lower and inner quadrant behind the ciliary body. The bit of metal was extracted without difficulty. No report of subsequent vision. It is interesting to note how little reaction followed the presence of the metal in the eye for a period of six weeks.

CASE VII.—J. S. January 14, 1908. Was knocking off the rim of a keg of white lead. He held a chisel in the rim of the keg and struck it with another chisel. A bit of metal, probably from one of the chisels, flew off and lodged in the lower and inner quadrant of the ciliary zone about 4 m.m. from the cornea. It appeared as a dark spot in the sclera. It had excited but little reaction, but Dr. Stapleford advised him to consult me. The eye was examined by Dr. Ricker with the X-rays and the foreign body was definitely located.

Operation: The conjunctiva was first cut away from the region of the injury. As the metal had been in the eye for two weeks, it was impossible to use the magnet until the original wound had been enlarged. This was done and the magnet quickly brought the foreign body out. No reaction followed. V=15/30.

CASE VIII.—Through the kindness of Dr. Thompson I am permitted to publish a case which came to him for advice.

J. L. February 25, 1908. Patient was working with a punch or die. In its operation the die is raised and then comes down with great force on a piece of metal into which it is supposed to cut. When the punch came down a fragment of its edge broke off and penetrated his left eye. It made a crescentic wound in the upper and outer quadrant of the cornea, the inner end of which extends into the ciliary region. It cut through the iris and lens and passed into the vitreous. The iris prolapsed and Dr. Thompson cut it off, and then removed most of the broken and semi-opaque lens. The eye was cocaineized and the magnet brought close to it. This caused quite a severe pain due to the traction on the metal in the eye. One could see the iris swell forward from the pressure of the metal behind it. A second time the magnet was brought close to the eye. The piece of metal now shifted its position, and before the tip of the magnet was in contact with the eye the metal sprang out of the eye and adhered to the magnet. The eye is still under treatment.

In an attempt to hold cheap hammers responsible for these injuries, we will have to exclude Cases VII and VIII. In Case I the bit of metal is supposed to have come from a cutter blade, and in Case VI from the end of a drill, but in both the hammer was *particeps criminis*. In Cases II, III, IV and V hammers and hatchets and chisels will have to divide the responsibility. But with the sample hammer which I show you (and hatchets are made in the same cheap manner) it is not difficult to decide that the testimony is strongly against it on its very face. You can easily see the thin case-hardened coating, and under it the softer metal with dents in it, and also depressions showing actual loss of substance.

If men can protect themselves from these dangers by the purchase of better tools, they should do so. If tools are furnished by the employer, he should certainly protect his employees by giving them the best tools and thereby protect himself from the possibility of a suit for damages.

What has been said about cheap hammers and hatchets will apply with equal force to cheap chisels. Tools of this kind, which are liable to chip or break off, should be of the best, for mechanics are in constant danger of these accidents even when the best material is used.

It is interesting to observe that in Cases II, III and IV there was a temporary clouding of the posterior cortex of the lens. This was due to the concussion produced by the foreign body. In all these cases the opacity cleared up.

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A CASE OF A TUMOR CEREBELLI.\*

By W. NOBBE, M.D.,  
ST. LOUIS.

Modern knowledge asserts that not all parts of the brain are of equal importance for mental life. Those parts which can easily be macroscopically distinguished, may be roughly classified as to their functions into two main divisions: higher and lower.

The lower parts of the brain, covered by convolutions, are inserted between the lobes of the cerebrum and the spinal column and they enclose the medulla oblongata with its adnexes, that is, cerebellum, corpora quadrigemina and at least a portion of the ganglia of the cerebrum. Anatomy shows plainly that these lower parts of the brain possess the function of reflecting from within a total status of the body. With the assistance of the nerve fibres, which go from all the muscles, tendons, joints, the semi-circular canals, etc., to the cerebellum, registering there perpetually each change of position of the movable members of the body, a complete static-mechanic picture of the whole is produced. Therefore it is not astonishing that even without the help of external perception of the senses appropriate movements of the body take place. (Flechsig.)

If the cerebellum be totally removed from a frog, no visible disturbances occur (Steiner), but if the cerebellum of a bird or a mammal is destroyed, the animal will stagger and stumble. Even in a human being this "cerebellar ataxia" can be observed. Therefore the cerebellum must be, as Meynert says, a central station for the muscular sense.

But if we also keep in mind the numerous connections of the cerebellum with other parts of the brain and spinal cord, we must agree with Wundt, who says that "the functions of the cerebellum belong to the darkest part of the central nervous system."

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\*Read at the April meeting of the St. Louis Ophthalmological Society.

In spite of this an oculist has comparatively little difficulty in diagnosing a tumor cerebelli, one of the gravest brain diseases.

The existence of a papillitis in both eyes, or—a somewhat rarer occurrence—in one eye, together with severe headache, dizziness, nausea and vomiting will always arouse a suspicion of a growth on the cerebellum.

How difficult it nevertheless may be to define the kind and the localization of the tumor can be illustrated by a case which is still under my observation and which will give us an opportunity to go somewhat into detail.

On the 25th of March, 1905, F. M., 18 years old, was sent to me by his physician for examination of the eyes as he had been complaining for about two months of severe headache and sometimes was unable to read on account of a blur before the eyes. Furthermore he had recently experienced double vision. The patient gave me the following history: "In the last few months I often felt very sleepy. If I sit in the car, read a paper, or even at the dinner table I fall asleep and my family is beginning to tease me about this. There have not been many days within the last few months, on which I did not wake up with a more or less severe headache, which sometimes lasted until evening and often increased during the day to an unbearable degree. Three or four times a week I have vomiting spells, especially before meals, and after vomiting freely I generally feel relieved. I am as much troubled by dizziness as by headache. My walk is sometimes like that of a drunken man. I often stumble towards the houses. Seeing quite well at the distance I frequently have difficulty in reading even large print. The letters are indistinct, run together and everything seems to be confused. On other days I can read even the smallest print. During the last few days I have seen double."

The anamnesis shows the following: The maternal grandmother was a sufferer from fainting spells, until she reached the age of 35. She lost consciousness and the whole body became rigid. A maternal uncle suffered after his eleventh year from convulsions. He fell, lost consciousness, struck about violently and foamed at the mouth. After his 21st year there was no recurrence of these attacks.

At the age of 6 the patient passed through a very severe spell of typhoid fever. When 9 years old he sustained an injury to the head by being struck with a stone. The slight scalp wound, about one-half inch in diameter, bled freely; a barber cleansed

and bandaged it and it healed quickly without any pain. When young, the patient suffered frequently from nose bleedings. He says he was always full-blooded. Until recently he never complained of headaches, and up to the age of 18 the patient enjoyed perfect health.

The ophthalmological examination on the 25th of March, 1905, showed a papillitis or rather a neuritis descendens in both eyes with changes in the surrounding parts of the retina. The left eye was a little more affected than the right one. The swelling of the nerve-head was of a moderate character. The veins were distended, carried dark colored blood and were partly covered by infiltration. The tortuosity of the veins was conspicuous in both eyes. In the left eye I saw a large hæmorrhage on the temporal side of the swollen papilla and another one of about the same size in a more peripheric part. The right eye showed one little hæmorrhage. No stellate macular figure. The pupils were very large and showed slow reaction to light, no reaction on convergence. There was no nystagmus when looking either straight ahead or sideways. The abducens of the right eye was paralytic. Patellar reflexes exaggerated. Romberg's phenomenon was present. With his eyes closed the patient swayed considerably. The field of vision was intact. Vision 6/6 with +0.5 D. cyl. vert. Jaeg. I with +2.0 D. sph.

I immediately put the patient on a mercurial treatment (inunction) and iodide of potassium, notwithstanding that there was no reason to suspect syphilis. About a month later I had Dr. Alt see the case with me in consultation; the symptoms were nearly the same, except that the hæmorrhages were considerably smaller. Twice when the headache and the dizziness were very severe 5 leeches were applied on the processus mastoideus which produced a rather profuse bleeding and gave the patient immediate relief.

About two months after the first visit of the patient the paralysis of the abducens was much reduced, although the papillitis did not show much improvement. The vision was always normal. On the 15th of November, 1905, the patient, while attending a base ball game, suddenly felt extremely dizzy, saw everything in a blur and objects which were quite near seemed to be far removed. Notwithstanding the dizziness he was able to go to the club house where, directly after sitting down in a chair, he felt a jerking sensation in his head and lost consciousness. Later on he was brought home in a carriage. He after-

wards had but a faint recollection of the occurrence. He had bitten his tongue during the attack, yet there was neither headache nor dizziness on the following day. November 17th he came to my office again and I found the papillitis not increased, but a new large hæmorrhage in the retina of the right eye and a *complete paralysis of both external recti*. No reaction of the dilated pupils to light or on convergence. Vision 6/6. For the first time the patient complained of a numbness in the right hand. Romberg's phenomenon with closed eyes quite distinct.

I put the patient again on mercurial inunctions (4 gr. pro dos.) and increased the dose of natr. iodat., adding thereto natr. bromat. December, 1906, he had another attack, but with no serious results. January, 1907, the paralysis of the muscles began to disappear and even the swelling of the optic nerves decreased. July, 1907, the outlines of the nerve in each eye were well defined, the arteries being considerably smaller than normal. Middle of July he sustained another but not so severe an attack. This time his tongue was not hurt at all. This attack started with a cold numb feeling in his feet, which by spasmodic degrees rapidly advanced over the whole body till he lost consciousness. A few days after this attack he had a loud ringing sensation in his ears, which lasted about a week and then disappeared.

Altogether the patient had eight attacks, which became less severe each time. According to the statement of his family the patient never foamed at the mouth. The last spell occurred in January, 1908. At that time he was in a factory, and suddenly saw everything in a blue and red light, his head then began to jerk violently and he bit his tongue. The patient believes that this time he did not lose consciousness at all and that the spell lasted about 25 minutes. But I am inclined to think that he was mistaken.

I saw the patient again on the second day of this month, April, 1908. The outlines of both optic nerves are clearly defined, the veins are not sinuous, the arteries still conspicuously smaller than normal. The color of the optic nerve—the capillary redness—seems satisfactory. No hæmorrhages. The pupils are still enlarged, slow reaction to light but not on convergence. The functions of all the muscles are normal. Vision 6/6. Jaeg. I with +2.0 D. Patient still takes iodide nearly every day. The vomiting occurs but seldom, the numbness of the hand never returned, only a more or less severe dizziness is still troublesome. As his

mother states, his memory is perhaps not quite as good as before: occasionally he forgets business details.

Now: What should be the diagnosis in this case?

For only one moment could we assume that the injury inflicted by the stone might have been deeper than suspected and caused a fracture of the skull, and a lesion of the brain. When we call to mind, how quickly the wound healed and that for a period of nine years the patient had not the slightest symptoms which might be traced to the injury, and furthermore as there is no exostosis nor an adhesion of the scalp to the bone, we are perhaps justified in excluding etiologically this injury.

Epilepsy should also be considered. There is, in fact, a strong resemblance in the spells of the patient to epileptic fits. It is a known fact that in various anatomical diseases of the brain attacks similar to epilepsy occur, which are called "epileptiform." But the eye symptoms, the ataxia, etc., prove that even taking the anamnesis into consideration, this cannot be accepted as a case of typical epilepsy. The attacks from which the patient suffered were simply symptoms of another disease.

Headache, papillitis, nausea, vomiting, dizziness, the cerebellar ataxia, and last, not least, the affection of the abducens in both eyes are symptoms of a cerebellar growth.

But what kind of a growth could it be? Tuberculosis can be excluded. The family history shows an absence of T. B. The most frequent forms of brain tumor are glioma and sarcoma. According to Westphal sarcomatous tumors occur more often in the young. Still more frequently are gummata of the cerebrum, but in the cerebellum they are rare. Carcinoma and abscess can be excluded, but the possibility of internal hydrocephalus might be considered. Although the patient denies ever having had syphilis, in spite of it I am inclined to diagnose this case *per exclusionem et ex juvantibus*—a syphilitic gumma.

Certainly we see, and I here refer to Nonne's paper (*Deutsche Zeitschrift fuer Nervenheilkunde*, 1904), that sometimes symptoms of a brain tumor disappear either under mercurial treatment or spontaneously, even if there is no syphilis present. We know also, that continued use of iodide of potassium has a favorable effect on syphilitic growth. Cases reported in literature as cured, refer mostly—surgical treatment not being taken into consideration—to gummata or other syphilitic manifestations, which respond readily to energetic treatment. The paralysis of the abducens in both eyes and the spontaneous disturbance of the acoustic

nerve are certainly not unusual symptoms in cerebellar growths. (Cf. The ocular symptoms of cerebellar tumors by de Schweinitz.) Owing to the anatomical relations of the cerebellum, tumor formation in this region may bring about involvement of certain cranial nerves. In a case reported by Saenger with gliosarcoma of the left cerebellar hemisphere, there was double abducens paralysis and in a similar growth recorded by Sander the abducens paralysis was explained by the finding of a lesion in its nucleus.

Mills (the diagnosis of the tumors of the cerebellum) states, that it should first be borne in mind that one-half of the cerebellum exerts its influence on the same side of the body as itself, its action on the spinal cord being direct and not crossed. A patient of Dr. Spiller who was operated on by Dr. Frazier tended to always pitch or fall toward the right. The post-mortem showed the tumor on the right side. Schede had similar experiences (Deutsche med. Wochenschrift, 1900). As usually taught, destruction of the cephalic portion of the vermis will cause a tendency to fall forwards and *irritation* thereof a tendency to fall backwards. Our patient was not able to state in which direction he generally fell or stumbled.

Unable to make an exact diagnosis as to the localization in this case, a difficulty which is met with in most cases of this kind, an operation is out of the question. Brain tumors on the whole do not invite surgical treatment. The possibility of an operation for brain tumor however depends on three following conditions:

1. The exact localization of the tumor.
2. The accessibility of the diagnosed localization.
3. The pathological anatomical character of the tumor itself.

Cysts, glioma and sarcoma are perhaps best suited for operation, while the opinions on the advisability of operating on gummata or tubercular growths differ.

It cannot be denied that the progress of cerebellar surgery is astonishing. According to statistics (cf. Frazier, Remarks upon the Surgical aspects of tumor of the cerebellum) the mortality has fallen off from 70% to 38%.

The operation of large tumors even when well encapsulated, is dangerous on account of hæmorrhage and the œdema of the brain, which are produced by the removal of large portions of the skull.

On the whole, because of the nature of the disease, the results obtained by any treatment are not satisfactory. A growth in the

brain can be successfully treated only if it is of syphilitic origin. If all suspicion of syphilis can be excluded then we can treat a case of this kind, which often lasts many years, symptomatically only. It is singular that in spite of severe general and local symptoms the vision can remain nearly normal, and even after a temporary recurrence of the symptoms, remains normal. Such cases are described by Jackson, Wernicke, Gowers, Uthoff, Perles and others.

This favorable course is particularly noticeable in syphilitic patients, which to me is not unimportant in diagnosing this case. Usually atrophy develops.

In a few words I want to refer to the origin of papillitis. It is known that a large number of brain diseases, such as meningitis, abscess, hydrocephalus, exudates at the base of the brain, might cause congestion.

In all such cases the ophthalmoscopic examination may show papillitis, but it is impossible to make an exact diagnosis as to the nature, the localization and the origin of the growths from this examination.

Only this much is certain, that after diagnosing a *papillitis* we are justified in suspecting a *tumor* of the brain; in diagnosing *neurorretinitis* we must look for a *disease* of the brain in the largest sense of the word. The fundamental relationship between diseases of the brain and papillitis is indeed subject to controversy.

Generally speaking the phlogistic theory, since Bruns' experiments, has lost ground considerably, while the theory of Schmidt-Manz, in my judgment, has not yet been refuted.

Since it has been proven that there certainly is a communication between the lymph in the optic nerve (especially through the lamina cribrosa) and the lymph in the subvaginal space, and a considerable hydrophalus vaginae nervi optici has been observed in brain disease, particularly with brain tumors, the Schmidt-Manz theory stating that a purely mechanical influence is the cause of the papillitis, sounds plausible. According to Leber the liquid itself excites inflammation.

## REPORT OF A CASE OF PARALYSIS OF CONJUGATE OCULAR SUPERDUCTION.

BY L. R. CULBERTSON, M.D.,  
ZANESVILLE, OHIO.

Mr. A. G., farmer, age 64, consulted me June 30, 1907. Stated that three weeks ago while shearing sheep he suddenly noticed that he had to "raise his head high" in order to see, and that he sees double all the time. Says he never had rheumatism or syphilis.

*Examination.*—When he throws his head back as far as he possibly can he sees only one light. With head thrown half way back sees double. With chin down he has vertical diplopia, one image being directly under the other and about eighteen inches apart, showing that either one superior rectus is not entirely paralyzed, or that the plane of one orbit is higher than its fellow, or both. He can lift eyelids about normally, but cannot raise either eye. Lateral and downward and accommodative conjugate movements normal. No paralysis of obliques, irides or ciliary muscles. Direct and consensual pupil reflexes normal. Vision and visual fields normal each eye. Fundi show no lesions. Hearing and sensation normal. Patellar reflexes normal. Romberg sign absent. Walks in straight line with eyes closed. No tabes.

*Diagnosis.*—Paralysis of both superior recti due to lesion (probably small hæmorrhage) on posterior surface of both corpora quadrigemina.

*Treatment.*—Large doses of K. I. and red iodide mercury and strychnia. A letter from his home physician several months later informed me that he had completely recovered.

The above is a very rare case.

Conjugate paralysis of the upward movements of the eyes is a rare symptom, and seems to indicate a lesion of the quadrigeminal region. (1. Norris and Oliver's System, p. 588.)

Gowers has recorded a case (2. Transactions of the Ophthalmological Society 1, p. 117: Diseases of the Nervous System, 1893, I. p. 185) in which this symptom was present, and in which a small tumor was found in the middle line behind the posterior quadrigeminal bodies, damaging these slightly, the velum, and the adjacent parts of the inferior vermiform process of the cere-

bellum. He points out that it should be remembered that disease of the nerves or their roots may chance to affect only the fibres for the superior recti. This was apparently the case in a patient of Thomsens (3. *Berliner Gesellschaft für Psychiatrie*, June, 1886) with an interpeduncular syphiloma. One superior rectus was affected more than the other, a character, Gowers thinks, which is probably of diagnostic importance. In a case of tubercle of the corpora quadrigemina, Hensch (4. *Berliner Klinische Wochenschrift*, 1864, Nr. 13) observed loss of power of the upward motion of the eyeballs as the first focal symptom to occur; and Steffen published a similar case. Paralysis of both the upward and downward motion of the eyes, sometimes with ptosis, while the lateral motions are unimpaired, has also been observed, and Gowers thinks it is probably also due to a lesion in the quadrigeminal region. Lang and Fitzgerald reported a case to the Ophthalmological Society (5. *Transactions Oph. Soc. United Kingdom*, II. p. 230) in which this symptom and hemianopsia were the two focal signs. The case recovered leaving only homonymous insular scotomata.

It is tolerably certain that the loss of power of the upward or of the downward motion of the two eyeballs, or of both of these motions, in these cases of tumors of the quadrigeminal bodies is a distant symptom, yet one of diagnostic value, and does not indicate the presence in these bodies of a centre for those motions analagous to the centre for conjugate lateral motions in the nucleus of the sixth nerve. In Burns' case of tumor of the corpora quadrigemina (6. *Arch. f. Psych. und Nervenkrankheiten*, XXVI. S. 299) the upward and downward motions were intact, while in his case of tumor of the cerebellum there was complete paralysis of the downward movement of each eyeball. In some way which we do not yet understand,—and it may be pressure or otherwise,—tumors of the quadrigeminal bodies sometimes, and also, though more rarely, tumors of the cerebellum, are competent so to act on the nuclei of the aqueduct of Sylvius, which govern these motions, as to paralyze them without interfering with the powers of neighboring nuclei. (7. Swanzy in Norris and Oliver's System, p. 599).

There are various other forms of nuclear third nerve paralysis (ophthalmoplegia) in which one or more ocular muscles or conjugate motions may be affected. One of these is complete ophthalmoplegia interna and externa, in which all the muscles of one eye, including ciliary muscle and iris are paralyzed. Ophthal-

moplegia interna, the ciliary and iris only. Ophthalmoplegia externa, the external and not ciliary or iris.

Conjugate paralysis due to paralysis of internal recti.

Conjugate lateral paralysis, i. e., conjugate motions to right or left.

There are other nuclear third nerve paralyses which I will not here enumerate.

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#### TOXIC AMBLYOPIA.

E. M. Blake (*Yale Med. Jour.*, Jan.) states that quinine, methyl alcohol, lead, arsenic, stramonium, cannabis indica, coffee and other substances occasionally may produce toxic amblyopia, but confines his remarks to the effect of tobacco and alcohol, the two substances which are responsible for the greater proportion of cases. While the condition occurs usually in persons who use both tobacco and alcohol, it is found more frequently in those who use only tobacco than in those who use only alcohol; hence it is reasonable to suppose that tobacco is the more potent factor of the two in the production of this condition. It is presumed that nicotine and alcohol exert a specific action on the nervous system, although this has not been proven. If the use of tobacco and alcohol is stopped before distinct pallor of the disc sets in the vision usually returns to practically normal. The pallor is first caused by anemia but later to atrophy of the nerve. After atrophy has once taken place the vision, of course, is permanently impaired, although it may improve under proper treatment and withdrawal of the poison. Absolute blindness never occurs. Regulation of the diet, Turkish baths and potassium iodid assist in eliminating the poison. Ascending doses of strychnin are of great advantage. The eyes should not be used for near work.

## MEDICAL SOCIETIES.

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### OPHTHALMIC SECTION OF THE ST. LOUIS MEDICAL SOCIETY.

*Meeting of January 8, 1908.*

The Chairman, Dr. Barck, presiding.

*"Remarks on Serpiginous Ulcer."*—Dr. A. Alt.

The author reported on recent work done by Gallemmaerts and others in the investigation of this subject. He drew attention to the fact that the Morax-Axenfeld bacillus is often the cause, although the diplococcus lanceolatus alone or accompanied by staphylococcus is found most often. A bacteriological examination should be made before any treatment is instituted, and if the Morax-Axenfeld bacillus is found zinc sulphate should be employed to cauterize the ulcer and the eye should be frequently bathed in a zinc sulphate solution. If the diplococcus is found, Roemer's serum seems to offer in many cases better results than the other forms of treatment hitherto employed.

#### DISCUSSION.

Dr. Williamson was particularly interested in Dr. Alt's paper for the reason that he had recently had a very unfortunate experience with a case of serpiginous ulcer, the patient being the father of a physician. The patient, 67 years old, had come to his office six weeks before, presenting a very virulent conjunctivitis. There was no involvement of the cornea. A smear showed a preponderance of pneumococci and some staphylococci. The ulcer was about the size of a pin head. Although it was cauterized thoroughly it continued to spread. In two or three days a second focus began to show distinct from the original ulcer. Ordinary treatment, lavage, hot applications, the use of atropine, etc., failed to have any effect and the ulcer continued to spread and a marked hypopyon appeared. The hypopyon was removed by Saemisch

section and the patient was now practically blind from the resulting leucoma. Dr. Williamson believed this would have been an excellent case for serum treatment; certainly all other treatment employed, the use of iodoform, cauterization, etc., had absolutely no effect in stopping the process. Such a result was very discouraging.

Dr. Meyer Wiener had recently had a case of serpiginous ulcer at the clinic of the Washington University Hospital which was very slightly developed when the patient arrived. It involved a semi-circle of about half the cornea. It continued to grow worse and after four or five days the process stopped and the eye began to get better. In a short time the ulcer was comparatively clean but remained the same size and shape. This clean ulcer, with no discharge whatever, refused to heal, and it was several weeks before it showed any sign or beginning to fill up, like the malarial ulcers sometimes seen. But the eyeball began to shrink and finally when the ulcer did heal there was not much vision, with very little scar. The active process was stopped without any perforation and it had looked at that time as if the patient would get fair vision, but probably on account of the depth and size of the ulcer the nourishment was impaired.

Dr. Clarence Loeb, in regard to the treatment of corneal ulcers, called attention to an article in the July number of the *Annals of Ophthalmology*, in which the production of passive hyperæmia was advocated. The writer reported twenty successful cases. In three he failed to effect a cure. He had found that the corneal scar was less dense and the vision much better than under any other form of treatment he had used.

Dr. Carl Barck said that he had just received the second report from the Heidelberg Society on this serum. The serum was now prepared from cultures of the pneumococcus and had proved successful in a certain number of cases. The clinical picture was changed entirely within a few days after the injection of the serum. The statement had been made that the serum would come into the market through the firm of Merck, about the first of this year, and every tube would be tested before leaving his laboratory by Dr. Roemer. It was certainly to be hoped that this serum would prove effective in cases like the one reported which were undoubtedly the most serious of all corneal affections.

JOHN GREEN, JR.,  
Secretary.

*Meeting of February 12, 1908.*

Chairman, DR. A. E. EWING.

*Presentation of Specimen.*—Dr. A. Alt.

The eye shown here I removed a week ago from a syphilitic individual. It has been blind for several years and suffering from ever-recurring attacks of cyclitis dolens. The most interesting part is what, externally, appears to be a beginning equatorial staphyloma. When I bisected the eye I found a large atrophic spot in the choroid, as you see here, corresponding with this apparent staphyloma. On cross-section it is, however, plainly seen that, instead of a thinned and bulging sclerotic, we have before us a thickening of the tissues, starting from the choroid and involving the sclerotic. I think, therefore, that this represents a healing gumma of the choroid and sclerotic. The patient has been under antisyphilitic treatment for some time. (The microscopic examination proved this view to be correct.)

*A Case of Retinitis Pigmentosa.*—Dr. John Green, Jr.

This case differs from the typical retinitis pigmentosa only in the sparse distribution of the "bone-corpuscle" pigment masses. It has been stated that certain cases otherwise indistinguishable from this disease may be wholly without pigment—opinions of the members regarding this point are requested.

DISCUSSION OF DR. GREEN'S CASE.

Dr. J. Ellis Jennings had observed one or two cases of what he believed to be retinitis pigmentosa without the pigmentation.

Dr. Hayward Post had had two cases in which there was a contracted field but no pigmentation. One of these cases he believed had at one time been in the hands of Dr. Shoemaker.

Dr. A. E. Ewing had seen one case of retinitis pigmentosa in which there was a shrinkage in the field but no pigmentation that he could detect.

*Sudden Blindness Following Injury (Patient).*—Dr. Llewellyn Williamson.

This patient presented himself at the clinic of the Washington University day before yesterday stating that ten days ago he had been struck in the eye with a brick. There is still some contusion

and a scar over the right brow. After being struck he felt very dizzy and held his hand over his eye for some time. Upon removing it, he found that he could not see. When first seen, his pupil was dilated, immobile and with absolutely no light perception. The ophthalmoscopic examination showed a large hæmorrhage to the upper and outer side of the disc and a small hæmorrhage in the region of the macula. No other findings. Why this man is absolutely blind I am rather at a loss to know. There may be a hæmorrhage in the sheath of the nerve or there may be a fracture of the orbit with injury to the nerve itself. The fact remains that he has absolutely no perception of light. Possibly some of you gentlemen can discover the reason for it.

#### DISCUSSION.

Dr. Henry Muetze thought the blindness was due to injury to the optic nerve. There is quite a dent in the supra-orbital ridge. Undoubtedly when the man was struck, the roof of the orbit was driven back, partly, or entirely, severing the nerve. He had seen a somewhat similar case several years ago in which a railway conductor had been injured by being struck by a mail crane. It had seemed probable in that case also that the blindness was due to injury to the nerve and the diagnosis was borne out by a complete atrophy later. Yet one should be guarded in the prognosis of these cases. He had seen, not long before, a patient, a physician, who had fallen on the sidewalk and sustained a severe injury to the base of the skull. In this case there had been only recognition of movements of hand at 3 inches, total absence of recognition of colors and marked blanching of the disc within a few weeks after the injury. The usual treatment had seemed of no avail and had been abandoned after a couple of months. The speaker had given a very grave prognosis. The patient spent several months in Europe and upon his return it was found that his vision was about 10/20. After that experience Dr. Muetze thought one could not be too careful in the prognosis of those cases of injury to the optic nerve in which absolute blindness does not supervene shortly after the injury.

Dr. Adolf Alt said that before making a definite statement, he would like to be certain whether the hæmorrhage was in front of, or behind, the retina. In one of his cases, following an attempt at suicide by shooting, there had been an extensive rupture of the choroid and a rupture of the retina. It might be that in this case these hæmorrhages were not in the retina but in the

choroid. Of course the blindness was due to a fracture near the optic foramen, in whatever way that was produced.

Dr. Williamson stated that this was retinal hæmorrhage, that there was no sign of rupture of the choroid. The exact character of the injury he could not definitely determine, but the prognosis he thought was probably bad.

*Opaque Nerve Fibres (Exhibition of Two Unusual Cases).—*  
Dr. J. F. Shoemaker.

Opaque, or medullated, nerve fibres were first demonstrated by Virchow, anatomically, before the days of the ophthalmoscope.

The medullation of nerve fibres occurs late in intrauterine life and begins centrally, proceeding toward the periphery. The optic nerve is the last of the cranial nerves to become ensheathed according to Westphal, and von Hippel states that it is not until one or two months after birth that the process has extended to the eyeball where it usually stops. Occasionally some of the nerve fibres take on the medullary substance after they have passed through the lamina cribosa. In the rabbit there is normally a transverse band of these opaque fibres. In man, when they occur, they are usually around the papilla and contiguous to it. Generally situated above or below the disc, they may be on the nasal side, or very rarely, on the temporal side. When occurring on the temporal side, they stop short of the macula, as a rule, although Hawthorne states that they may involve the macula, when of course, central vision is absent.

Wagemann and Nettleship have made the interesting observation that where medullary nerve fibres are present in the retina they lose their medullary sheaths when the fibres degenerate, as for example, upon the onset of optic atrophy. Pflueger has demonstrated the same facts in rabbits. Frost has made similar observations in glaucoma.

The point of interest in the two patients presented, is the unusual position of the opaque fibres. In the one case there is a good sized spot of them in the upper temporal quadrant of the fundus, about four disc diameters from the optic nerve, the rest of the retina being normal. In the second case they are situated in the lower nasal quadrant between two and three disc diameters from the nerve; the retina, otherwise, being entirely normal.

The appearance of the opaque fibres in the periphery of the fundus is quite unusual, no mention being made of their being

found in such position by such authors as Fuchs, Swanzy, and de Schweinitz.

#### DISCUSSION.

Dr. Clarence Loeb stated that this was the first case he had seen of opaque nerve fibres at a distance from the disc. It would be very interesting to see a field of vision chart, and an outline made of the opaque nerve fibres.

Dr. Llewellyn Williamson, while assistant at Moorfields, had seen a case in which there was a large bunch of opaque nerve fibres, at a considerable distance from the disc and not in any way connected with it. It was looked upon as quite a rarity in that hospital where the clinical material was enormous.

#### *A Case of Sarcoma of the Right Orbit.*—Henry Muetze, M.D.

The patient, a boy 13 years of age, was struck in the right side of the nose and the corner of the right eye, in June, 1907. Soon afterwards a swelling appeared, which at the time of the first examination extended from the inner part of the roof of the orbit to the wing of the nose and from the root of the nose to the inner canthus, encroaching considerably upon the eyeball. Removal of the tumor which was found attached to the bone at its superior posterior aspect, was performed. Microscopical examination was frustrated by accidental loss of the specimen. About two and a half months later recurrence of the growth was observed. A second operation was performed and the tumor besides occupying the former location, was found to extend across the bridge of the nose to the inner canthus of the left eye. This and the entire posterior portion had to be removed by means of a chisel from the bone, to which it was firmly adherent.

On the seventh day after the operation slight exophthalmus manifested itself. As the fundus appeared normal, but vision was reduced to 20/80, it was surmised that another new growth was forming in the depth of the orbit, causing diminution in sight by retro-bulbar neuritis, due to pressure on the optic nerve. Microscopic examination proved the neoplasm to be a small round cell sarcoma.

The prognosis of sarcoma of the orbit is very grave. The neoplasm invades and infiltrates the surrounding tissue so rapidly that complete removal is almost impossible. If the patient does

not succumb to an extension of the primary growth, a fatal termination is frequently caused by metastases. A third operation has been considered advisable since and complete exenteration of the orbit has been performed by Dr. H. G. Mudd.

Dr. Adolf Alt had had experience with a number of such cases, always in small children, where the tumor was always a round cell sarcoma. After operating on the last cases, he had determined never again to operate on another case without complete exenteration of the orbit. In one case he had cleaned out the orbit as thoroughly as possible, the child had almost died on the table, yet in three months' time there had been a return of the growth. To avoid fatal results, it was necessary to take away not only the tumor, but the whole orbital tissue.

Dr. Williamson showed two pictures of a case he had seen last spring. One picture taken at the child's first visit showed an almost imperceptible bulging of the eye. The other picture taken 7 weeks later showed an enormous proptosis, the eye being almost out upon the cheek. The child was operated on by the country practitioner, but four weeks later was sent to the Martha Parson's Hospital in St. Louis, with a return of the growth, the tumor mass filling the orbit and involving both lids. Complete exenteration of the orbit with removal of periostium and both lids was performed, but the growth again returned although very slowly. An effort was made to try the effect of Coley's fluid, but before a supply could be obtained from New York, the mother took the child away, refusing all entreaties to leave it longer in the hospital. Shortly after the child was taken home, it became blind in the other eye and soon died. The whole course of the case was about three or three and a half months. Operative procedure in these cases never seemed to avail much.

Dr. John Green, Jr., stated that last summer he had seen a case at the Skin and Cancer Hospital in consultation with Dr. George S. Drake, in which there was a tumor of the orbit and complete destruction of the globe. Dr. Drake did a very thorough operation. Of course, after such an operation, there was the greatest deformity. To obviate this as much as possible, Dr. Drake brought down a piece of skin from the brow and sutured it in place below. The wound had healed very well and the deformity was much less than if no attempt had been made to fill the gap. Replying to a question by Dr. Ewing, Dr. Green stated that the patient was about 60 years old.

Dr. Henry Muetze asked if any of the gentlemen had ever seen one of these cases of round cell sarcoma recover.

Dr. Clarence Loeb, while with Dr. Barck, had seen a case in which Dr. Barck had been forced to do a complete exenteration of the orbit. The tumor had been operated on once before. The operation, done by Dr. Barck, four years ago, had been followed by recovery. The patient was forty years old or over. He could not state the nature of the growth.

Dr. Green referred to a report by Dr. Fox, of Philadelphia, of a case in which he had had a surprisingly good effect from the use of X-rays. The growth in this case had been enormous and inoperable, yet the X-ray treatment produced to all intents and purposes a cure. This case was reported about four years ago, at a time when there were many good reports of the X-ray being published.

Dr. H. W. Luedde spoke of the case of the little girl presented at the November meeting. The tumor had pushed the eye up and was entirely within the orbit. Dr. Mudd had done a complete exenteration, but the growth had returned and the child became blind in the other eye and finally died.

LLEWELLYN WILLIAMSON,  
Section Editor.

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THE OPHTHALMOLOGICAL SOCIETY OF THE  
UNITED KINGDOM.

*Thursday, December 12, 1907.*

The President, MR. MARCUS GUNN, in the chair.

*An Unusual Form of Cataract.*—Mr. E. J. Smyth.

Thos. G., aged 60, attended Moorfields under Mr. Morton on Nov. 12th, 1907, with the history of failing sight in the left eye for 6 weeks. There had been no injury of any importance, and no foreign body was found by X-ray photography.

R.V., with correction, 6/6 partly; L.V., 4/60.

Occupying the layers of the cortex between the nucleus and the anterior pole is an oval star-shaped opacity, its long axis horizontal, the rays of which are broad at their base, tapering to

a point at their free end. The other parts of the lens are clear, there are a few vitreous opacities, and the fundus is normal.

*Curious Corneal Opacity.*—Dr. D. C. Bardsley.

George A., aged 53, had suffered from diminution of sight in the right eye for 3 months. The family history is negative; there is evidence of early disseminated sclerosis.

On the right cornea, situated down and in, near the periphery, is a superficial opacity, surmounted by a fringed cap consisting of several linear markings placed close together with comparatively clear spaces between. The whole area represents what has been called a "mushroom-shaped" opacity of the cornea, and is beginning to show some signs of degeneration.

*Varicose Veins of the Conjunctiva.*—Mr. G. Coats.

A pathological section exhibited was of a case under the care of Mr. Lang, at the Royal London Ophthalmic Hospital, on April 27th, 1905. It shows 4 large dilated veins, with some smaller channels of the same type, lying close under the conjunctival epithelium, and separated from each other by a fine layer of fibrous tissue. The epithelium varied in thickness, being thinner over that part where the vessels come nearest to the surface. There were no proper vessel walls, but the spaces were lined by flattened endothelium.

*Multiple Congenital Malformations.*—Mr. J. Herbert Parsons.

A boy, aged 10 months, was brought to the Gt. Ormond Street Hospital on December 3rd, 1907, and was found to be the subject of an extreme convergent strabismus, probably due to absence, ill-development, or mal-insertion of the muscles. In addition, the right eye was microphthalmic, and the pupil was displaced inwards. The left eye was well formed, and the pupil, larger than the right, acted well to light and dilated moderately under atropine.

The fundus, examined under chloroform, showed in the right eye a good red reflex and the disc apparently normal. Down and in was a greyish mass streaked with bright reflex from the surface, and scattered about were a few yellowish patches with some pigmentation, one of which was found in the macula.

In the left eye there was a coloboma of the disc and another of the choroid in the usual situation, the latter being sharply defined with some heaping up of pigment at the margin; and in other

places were areas which appeared dark and coarsely stippled, and in this situation were seen several white spots and streaks of two definite types; one round, sharply defined, containing no pigmentation, the other slightly yellowish, angular spots with a certain amount of pigment at the edge.

The greyish mass in the right eye is probably atypical development of vitreous. The angular patches in the left fundus resemble those seen in microphthalmos with orbital tumor (Parsons, *Trans. Ophthalm. Soc.*, Vol. XXV, 1905), which have been shown to be due to absence of retinal pigment (Parsons and Coats in "Brain," Vol. XXIX, 1906).

Investigation into the family history, birth of the child, etc., revealed nothing of importance.

#### PAPER.

*Some cases possibly allied to Tay's Infantile Retinitis (Amaurotic Family Idiocy).*—Mr. E. Nettleship.

In this paper Mr. Nettleship sought to establish some points of resemblance between a certain class of cases showing amblyopia with definite macula defects in adults, and those cases of central retinitis of idiotic infants first described by Waren Tay in *Trans. Ophthalm. Soc.*, Vol I, p. 55, and Vol. IX, p. 158. He alluded to cases brought forward by Batten (*Trans. Ophthalm. Soc.*, Vol. XXIII, p. 386), Mayou (*Ibid.*, Vol. XXIV, p. 142), and S. Stephenson (*Ibid.*, p. 144) as being possibly of such a nature that, if examined earlier in life, changes similar to those found in Tay's retinitis might have been present.

Mr. Nettleship mentioned twelve cases which had come under his own observation, and which had not been definitely proved to be related to Tay's retinitis, but in which some fine changes at the yellow spot were associated with day- and color-blindness, dating from some severe derangement of nutrition.

The points common to most of the cases were:—

1. Their occurrence in patients of Jewish parentage.
2. The absence of syphilitic taint.
3. The presence of day-blindness, or dislike to bright sunlight.
4. The presence of color-blindness.
5. Some form of visual defect often amounting to distinct amblyopia.
6. Fullness of fields for white.
7. Changes at the yellow spot.
8. Atrophic appearance of the optic disc.

9. Defective mental ability either in the patient, or in one or more members of the family.

In two of the cases no record of color vision was taken, in three the recognition of colors appeared to be normal, in three no changes at the yellow spot were present, in three others the optic disc showed no signs of atrophy, while in another three the mental condition was not defective.

The changes at the macula varied from a general haze to well-marked areas of pigmentary degeneration with some definite white spots.

Mr. Nettleship considered that if patients with Tay's retinitis survived the infantile stage, some such appearance as was presented in these cases might possibly be found. He laid stress on the question of diet as a predisposing cause in the development of this type, and suggested that a toxic cause, either *in utero* or soon after birth, might excite the initial stages.

MALCOLM L. HEPBURN.

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## REVIEWS.

ENCYCLOPEDIE FRANCAISE D'OPHTALMOLOGIE (French Cyclopedia of Ophthalmology). Edited by Dr. F. Lagrange and Dr. E. Valude. Vol. VII. Paris, 1908. Octave Doin.

This volume of the great French cyclopedia contains articles on the affections of the lens; of the optic nerve; tumors of the optic nerve; paralysis of the eye muscles and lateral homonymous diplopia. These excellent articles by such men as Dor, Dufour, Gonin, Lagrange, Sauvinau and Rochon Duvigneaud, are very beautifully illustrated by 141 illustrations. It is a magnificent work and should prove of great value to every oculist and teacher of ophthalmology.

NOUVEAUX ELEMENTS D'OPHTALMOLOGIE (New elements of Ophthalmology). By Dr. H. Truc, Dr. E. Valude and Dr. H. Frenkel. Paris, 1908. A. Maloine. Second edition wholly rewritten and enlarged.

When comparing the first edition of the Nouveaux éléments with this second one, the book can hardly be recognized, its

shape and size is so changed. In the same manner the contents are materially changed from what they were. A large number of new chapters and paragraphs have been added and no labor has been spared to make this text-book one of the best, not only in the French language.

**COSMETIC SURGERY.** The correction of featural imperfections.  
By Ch. C. Miller, M.D., Published by the author. 70  
State St., Chicago, Ill. Price \$1.50.

This little book which has 73 illustrations to its 136 small pages, is full of instructions of how to improve imperfections of the face. It is pleasant reading and contains numerous suggestions of value. The author seems to speak authoritatively and from a large experience.

**REPORT OF THE NEW YORK STATE COMMISSION FOR 1906,** to  
investigate the condition of the blind in the State of New  
York.

The report of this committee so full of evidences of careful and honest work on the part of its members should be widely spread and read by all who are interested in the welfare of the unfortunate blind. It contains, furthermore, a great many suggestions as to the training and employment of blind people which are worthy of the consideration of every citizen. A large number of good photographic illustrations add to the instructiveness of this valuable volume.

ALT.

## ABSTRACTS FROM MEDICAL LITERATURE.

By W. A. SHOEMAKER, M.D.,

ST. LOUIS, MO.

### THE TREATMENT OF IRITIS.

E. C. Ellett (*Jr. A. M. A.*, April 4, 1908,) agrees with Brailey and Stevenson that the object of the treatment of iritis is three-fold: 1, To dilate the pupil; 2, to relieve pain; 3, to treat any constitutional condition that may be present as a cause, as well as to attend to the patient's general bodily welfare and secretions. The object of dilating the pupil is (a) to prevent the formation of adhesions which might interfere with the vision and with the free circulation of the aqueous between the anterior and posterior chambers; (b) to diminish the volume of the iris, thus lessening the amount of blood in it; (c) to put the ciliary muscle at rest by the same drug which dilates the pupil; (d) to secure the local sedative action of the mydriatic drug.

The most efficient mydriatic is atropin, of which the standard solution is that of four grains to the ounce. It often is advisable to increase the strength to eight grains to the ounce in patients with marked adhesions, or to lessen the strength in children or persons who are susceptible to the drug. Where adhesions cannot be broken up with the use of the stronger solution it may be wise to place a small crystal of atropin in the lower cul-de-sac, having the patient hold the finger over the lacrimal region for ten or fifteen minutes. The atropin catarrh, which formerly was quite frequent, is now generally believed to be the result of infection from dirty solutions and dirty droppers. The use of clean droppers and fresh solutions will prevent most cases of this trouble. To enhance the mydriatic action of atropin, cocain may be used, preferably just before the instillation of the atropin. Dionin is also recommended, although Ellett's personal experience does not satisfy him that it is all that it is claimed to be in this connection. The application of heat also assists the action of the mydriatics by increasing the circulation through the eye. The eye should be protected from light and the patient put at rest in bed until convalescence is established.

For the relief of the pain, in addition to the use of atropin,

cocain, dionin and heat, locally, anodynes are often needed. Some form of opium is most effective but should be used only as a last resort on account of its systemic effects. A combination of antipyrin and salicylate of sodium in moderate doses has been found very efficient. Local blood letting by leeches, preferably, is often helpful. When the pain is due to increased tension, hot applications, miotics and paracentesis are indicated. When miotics are used the pupil should be dilated at least once in twenty-four hours to prevent synechiæ.

Constitutional treatment should include the treatment of the constitutional condition which is acting as the cause of the iritis and in addition to this any disturbance of function, nutrition or metabolism, giving special attention to the action of the bowels, skin and kidneys. Mercury and salicylates are of course needed in syphilis and rheumatism, but they are often of value in cases that are not due to these diseases. Mercury is especially valuable in cases with much plastic exudate. Ellett finds the best results follow when the drug is given by inunctions. He finds the iodids of little value except in chronic cases or when the iritis is associated with choroiditis. While sweats are of some help they are not nearly so valuable as they are in the treatment of choroiditis.